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ABSTRACT

Research is the planned collection, selection, and processing of information that typically takes three forms--historical, descriptive, or experimental. Historical research seeks to uncover facts with respect to events that have already happened, descriptive research seeks to uncover facts with respect to the current scene of events, and experimental research seeks to develop more theoretical knowledge in a given field. Young students can become excellent historical researchers by making use of primary source materials provided by the oral interview. Students can be asked to tape record their grandparents' remarks about their early school experiences or to compile a cookbook of "secret" family recipes that have been handed down through the generations. The point is to get them started talking and interviewing persons as sources of information. If relatives are not available, children can consult with older neighbors in their community. Children can also be introduced to descriptive research by focusing upon a real-life problem that is both manageable and important to them. Problems might include rowdy school cafeterias, crowded hallways, or unsafe traffic intersections. Once a problem has been isolated, the children can brainstorm with the teacher for a list of solutions to the problem. Then they must refine, combine, or categorize their solutions into a manageable number of options. Small groups can then investigate the possible solutions through data collection or surveys. In these ways the language arts teacher can broaden the children's research skills beyond the paraphrasing of the encyclopedia. (HOD)

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POSTPONING THE ENCYCLOPEDIA:
CHILDREN AS RESEARCHERS

When teachers decide that it is about time to have students learn to "do research," two components are inherent. First an assumption is made regarding the form in which the research "is done": the report. Secondly, an assumption is made as to the source from which the research will be most heavily drawn: the encyclopedia. In effect, the bulk of the hidden lesson rests squarely upon techniques in the art of "paraphrasing." The premise that such a procedure constitutes "teaching students how to do research" is a weak one at best.

First, what is research? It is simply the planned collection, selection, and/or processing of information. Typically it takes three forms:

1. Historical research. This form of research seeks to uncover facts with respect to events which have already happened.

2. Descriptive research. This form of research seeks to uncover facts with respect to the current scene of events.

3. Experimental research. This research form seeks to develop more theoretical knowledge in a given field.

Do these sound a little vague? Let us examine each a little more closely.

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HISTORICAL RESEARCH. What is the primary objective of historical research? It is to find out what happened and make interpretations upon what was.

How does one go about the task of collecting source materials for such a purpose? Historical researchers usually divide source materials into two large categories: primary and secondary. Primary source materials include items such as the personal correspondence, diaries, corporate records and government documents. Oral interviews with persons who were present during a given event are also considered primary sources.

We tend, unnecessarily, to focus our children's attention upon secondary sources -- books, articles, reports. These sources may or may not have been written by someone who gathered the information through a careful examination of primary source materials.

Historical researchers never completely trust secondary sources. How many of us, for example, learned that Paul Revere made "that famous ride" only to later be informed that "the ride" was made by William Dawes? How many of us learned, after years of schooling, that the famous Battle of Bunker Hill was actually fought upon Breed's Hill? Why focus so heavily upon secondary sources in teaching children to "do historical research"?

Children are capable of conducting excellent historical research in the primary grades if we only afford

them the opportunities. In fact, they probably need the experience of primary historical research before they encounter discrepencies and disputes with respect to "the facts" as printed in secondary source materials. Those opportunities for historical research with children will be the subject of Part Two in this series of articles.

DESCRIPTIVE RESEARCH. What is our goal in descriptive research? Descriptive researchers conduct what is commonly referred to as "normative survey" work, seeking to establish the status of something. In contrast to the historical researcher who studies the past, the descriptive researcher examines the present. This sort of research establishes trends and can be used to make predictions.

Descriptive researchers rely heavily upon surveys. These may be in the form of tests, questionnaires or interviews. Results can be reported in simply tally, percentage, or other agreed-upon data collection form. "Four out of five dentists surveyed recommend . . ." is familiar descriptive research data to all of us.

Children are bombarded with descriptive research results on a daily basis via the televised media presentations:

"We asked and found . . ."

"Of the mothers we talked to . . ."

"We asked dads and found that . . ."

Yet how much of the time that we spend teaching children to "do research" ever includes descriptive research components deliberately?

Children can be taught to become both excellent historical and descriptive researchers during the elementary years if we provide stimulating opportunities for the growth and development of such skills. Discussions involving descriptive research experience can coincide well with class discussions related to commercial television, propaganda techniques, and/or advertising. Opportunities for descriptive research with children will be the subject of Part Three in this series of articles.

EXPERIMENTAL RESEARCH. Because children are generally given a feel for experimental research in their science classes, our discussion of experimental research will be comparatively brief. What are the basic objectives of experimental research? Experimental researchers attempt to develop theories which help to explain causation. One cannot, for example, say that a given toothpaste inhibited cavity formation by means of simply survey results. If 80% of the children surveyed used a specific toothpaste and reported no cavity development, the questions arise immediately:

1. What do we "report"?
2. How often did they brush?
3. What were their ages?

4. What were their "snack habits"?

5. To what group are they being compared?

At this point experimental research enters the picture. Experimental research involves group comparisons: experimental and control groups. It involves some sort of treatment: one group brushed with Type A toothpaste, the other group brushed with Type B. It involves the control of variables: both groups brushed after each of three meals for six months and were allowed no between-meal snacks. These are only some of the "basics" in experimental research. As any doctoral student can attest, well-designed experiments can become amazingly complex!

Elementary students, however are usually introduced to the world of experimental research through simple, controlled classroom-based observations of phenomena such as plant growth. Typically, the students plant seeds in two cups (an experimental group and a control group), water each daily (control of variable), see that each plant gets the same amount of plant food (control of variable), but expose one plant to sunlight and the other to shade each day all day (treatment). Unless the teacher has selected a plant which thrives on shade or unless some mischievous student has tampered with the plants, the results are fairly predictable.

When science teachers decide that it is about time to have students "do research" they may herd them,

traditionally, toward the encyclopedia; but, the experimental research component is usually a functioning part of the ongoing teaching-learning experience in class. When we, as language arts teachers, traditionally steer students to the encyclopedias to "do research," we focus upon a very narrow band in the broad range of experiences known as "research." When the school day is compartmentalized into discreet subject areas one of the tasks delegated to the language arts specialist is, indeed, to "teach research skills." For that reason we will examine opportunities and methods for broadening the elementary approach to teaching.

CHILDREN AS HISTORICAL RESEARCHERS

Primary grade students can become excellent historical researchers. Does this sound surprising? Remember Jerome Bruner's famous hypothesis, ". . . any subject can be taught effectively in some intellectually honest form to any child at any stage of development"? So it is with historical research skills. Exposing primary students to historical research experiences may have the added benefit of drawing students closer to their families. In an age when the extended family is becoming an endangered species and the single parent family is rapidly becoming a model lifestyle, the added benefit of closer family relationships may, in and of itself, make the historical research venture worth the effort.

First of all, what is historical research? It is a form of research which seeks to find out what happened and to make interpretations upon what was. In order to "do" this, historical researchers turn to two general types of sources: primary sources and secondary sources.

As was mentioned in Part One of this series, in language arts classes students are usually expected to use secondary source materials (encyclopedias, books, articles) and to compile paraphrased knowledge into a traditional form (a report) in the name of historical research. Historical researchers would never dream of taking such an approach! They never completely trust secondary sources. Secondary sources are often riddled with discrepencies and factual inaccuracies. How do students react when one book lists an event date as 1642 and another cites the same event in 1638? Do they balk? Do they even care -- slapping down a date "just to get finished," because the whole exercise is so far removed from their own interests and experiences.

On the other hand their lives are full of extraordinary primary source materials! Primary source materials include such things as oral interviews with persons who were present during a given time or personal letters of a person about whom a biography is being written. Why not capitalize upon the known interests and experiences of students and launch them vis-a-vis those experiences into

historical research? The following suggestions are only a few of the many ways that such an introduction to historical research might be handled.

Do children like to visit their grandparents? Do the grandparents enjoy visiting with their grandchildren? Why not have students take a cassette recorder along with them the next time that they visit their grandparents? According to William Zimmerman, "Grandchild plus grandparent plus tape recorder equals living history." Most primary and upper elementary students love the idea and are capable of producing a treasured family document. Teachers can help students plan questions like, "What was school like for you?"

Is cooking effective in the classroom? Students could compile a cookbook of "secret family" recipes which have been handed-down through the generations. They could compile a book of old home remedies used by their families. These could be individual, small group, whole class, or entire school projects. The point is to get them started talking and interviewing persons as sources of information.

Was Roots popular with the students? They may enjoy sitting down with the oldest living member of their families and collecting their individual family history. If grandma can remember stories told to her by her grandmother, students may glance, vicariously and personally, at events which are meaningless to them when presented in textbook version.

Do students enjoy slumber part "scary stories' or local folklore? Folklore is simply the "verbal folk art" of a community. Students may want to collect folktales told to them by their grandparents or great aunts and uncles. Another group of students may be more interested in exploring games and toys of yesteryear.

What happens when students honestly do not have an older relative close at hand? Unfortunately this situation may be increasing in frequency. If this is a problem, elicit the help of older members of the community. Perhaps older neighbors could come to the school, or the students could go to them. Nursing homes ore retirement centers may be very helpful in this respect. Many retired persons in the community are glad to assist with such projects.

Has this approach to historical research "worked"? Doubleday's Foxfire collection, Bitters eat Country, and The Salt Book all began as student efforts to collect and preserve oral history, folklore, and folklife. To date dozens of such magazines/projects exist, many exist at the elementary level. Approaches to historical research, such as these, rest upon two basic premises. First, KIDS CAN DO REAL WORK WHEN GIVEN THE CHANCE. Second, THE FAMILY AND COMMUNITY CAN OFFER INVALUABLE RESOURCES IN THE TEACHING OF HISTORICAL RESEARCH TECHNIQUES.

A step-by-step outline for developing historical research projects goes beyond the scope of this article.

A reference list of helpful sources has been provided for that purpose. The point, however, is this: primary students can become excellent historical researchers IF we, as language arts teachers, broaden the limits of our notions regarding "children's research" skills.

CHILDREN AS DESCRIPTIVE RESEARCHERS

The final suggestion is simply this: primary and upper elementary grade students tackle descriptive research projects with remarkable skill and enthusiasm. What is descriptive research? Definitions of historical research may seem obvious enough; but, definitions of descriptive research may be more elusive.

Descriptive research is simply a form of research which seeks to uncover facts with respect to the current scene of events. Descriptive researchers attempt to establish the current status of something. They conduct what is referred to as "normative survey" work. While historical researchers examine the past, the descriptive researcher examines the present -- establishing trends that can be used in making predictions.

Descriptive research employs survey techniques. The questionnaire may be the most widely used descriptive research tool. Children are very familiar with survey techniques even though they may never have heard the term "descriptive research." Why has not heard dozens of

television commercials which base product claims upon survey results such as, "of the dentists who recommend sugarless gum . . ."? How much of the time that is spent in language arts instruction is spent dealing with descriptive research? Yet it is one of the most exciting research activities available to children.

How could children be introduced to descriptive research? They are already familiar with it through commercial television. In the classroom, descriptive research could form the procedural core for real-life problem solving strategies. Problem-solving is, of course, not a new strategy. Solving broad-based, real-life problems entails using skills, concepts, and processes from every facet of the curriculum and dates back to John Dewey. At its heart lies the descriptive research process. How can it begin?

First, the students (small group or whole class) need to focus upon a real-life problem which is both manageable and important to them. For example, during basketball season a local department store exhausts its supply of athletic shoes. A group may be more interested in investigations centered around the "best buy" in athletic shoes rather than replenishing inventories. Problems usually abound in schools: rowdy cafeterias, crowded hallways, shortages of materials, unsafe traffic

intersections. Consumer trend research is, however, particularly appealing to students.

Once a problem has been isolated, the next step is brainstorming. Through brainstorming sessions, conducted with the teacher, the group needs to list solutions to the problem. Then, they must refine, combine or categorize solutions into a manageable number of options. For example, expelling 20% of the student body would not be a reasonable solution to the problem of a rowdy cafeteria. A group doing consumer trend research might suggest dozens of reasons why they buy one project brand (ex. ice cream) as opposed to another.

Once the group is satisfied with their combined, refined, and consolidated list of suggestions, the large group then subdivides into smaller work groups. The division is based upon student interest in the investigation of one possible solution. In consumer trend research, for example, one group may want to run tests on various brands of ice cream purchased at one store while another group may want to run some in-depth price-comparison studies. During small group investigations students are required to collect data, hypothesize, reformulate original theories and act upon viable solutions. In responding to this method students are exposed to critical components of research: observation, data collection, representation and analysis of data, formulation of tentative hypotheses,

research design, and decision making. It sounds complicated, but those are simply complex names for the things that the students find themselves doing quite naturally.

Certain things are routinely expected of each person in the class during the problem-solving process:

1. That at the close of each session the large group reassembles and each small group reports upon its activities for the day, accepting suggestions from other small groups.

2. That each group figures out a way to graphically represent its findings to the larger group.

3. That each group have a rotating secretary who records a daily log of the small group meetings.

4. That the teacher circulate among the small groups during work time.

5. That the teacher refrain from "giving" answers, but concentrate upon asking "leading" questions.

To repeat, one of the primary tools of the descriptive researcher is the survey. Survey work is essential to the work conducted in the small group meetings. Even kindergarten children have exhibited remarkable skills in survey data collection. For example, in the area of consumer research, one group may choose to survey the ice cream preference of the entire student body. Every child should be capable of graphically representing such data in some intellectually honest form.

For those who are as yet unable to tally with stick figures, the stacking of colored blocks to indicate responses (red for Bryer's, blue for Baskin-Robbins, etc.) very much resembles a three dimensional bar graph. Working in conjunction with the mathematics teacher may, at this point, be mutually beneficial to both. It may be an interesting and unusual team-teaching experience as well.

Does this approach still sound a little sketchy? There are materials available which provide, in detail, teacher-tried ideas for classroom procedures in the solution of more than a dozen basic "problems." The materials are directed to teachers and are both inter-disciplinary and non-sequential. They may be used at any grade level. They are adaptable to almost any age and/or ability level. The materials are entitled, interestingly enough, Unified Sciences and Mathematics for Elementary Schools. They are available through Moore Publishing Co., P. O. Box 3036, West Durham Station, Durham, North Carolina, 27705.

In summary, we have come full-circle. Science teachers may be doing a better job of teaching basic research skills than do language arts teachers. Some of the best research teaching materials seem to smack strongly of science. That may be because research is, after all, a scientific endeavor. One of the many tasks delegated to language arts teachers is, after all, to "teach research skills." Language arts teachers need to broaden the

horizons with regard to the teaching of "children's research skills" and stop limiting the teaching of research to the paraphrasing of the encyclopedia.

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